

PCT09

RAW SEQUENCE LISTING

DATE: 10/11/2001

PATENT APPLICATION: US/09/857,069

TIME: 10:26:05

Input Set : A:\SEQUENCE LISTING.txt

Output Set: N:\CRF3\10112001\I857069.raw

2 <110> APPLICANT: Hamburger, Joseph Laban, Avraham
 4 <120> TITLE OF INVENTION: METHODS FOR BULK STABLE INTRODUCTION AND EXPRESSION OF
 FOREIGN GENES

5 INTO EUKARYOTIC PARASITES FOR IN VIVO PRODUCTION OF DESIRED GENE
 6 PRODUCTS

8 <130> FILE REFERENCE: 01/22115

10 <140> CURRENT APPLICATION NUMBER: US 09/857,069

11 <141> CURRENT FILING DATE: 1999-12-01

13 <150> PRIOR APPLICATION NUMBER: US 09/201,850

14 <151> PRIOR FILING DATE: 1998-12-01

16 <150> PRIOR APPLICATION NUMBER: PCT IL 99/00651

17 <151> PRIOR FILING DATE: 1999-12-01

19 <160> NUMBER OF SEQ ID NOS: 9

21 <170> SOFTWARE: PatentIn version 3.1

23 <210> SEQ ID NO: 1

24 <211> LENGTH: 5356

25 <212> TYPE: DNA

26 <213> ORGANISM: Artificial sequence ✓

28 <220> FEATURE:

29 <223> OTHER INFORMATION: GFP-GST recombinant vector sequence ✓

31 <400> SEQUENCE: 1

32 agcttgcatg cctgcaggtc gactctagag gatccccggg taccggtaga aaaaatgagt 60
 34 aaaggagaag aacttttcac tggagttgtc ccaattcttg ttgaattaga tggatgatgtt 120
 36 aatgggcaca aattttctgt cagtggagag ggtgaagggtg atgcaacata cggaaaactt 180
 38 acccttaaat ttatttgcac tactggaaaa ctacctgttc catggccaac acttgctcact 240
 40 actttctctt atggtgttca atgcttttca agataccag atcatatgaa acggcatgac 300
 42 tttttcaaga gtgccaatgcc cgaagggtat gtacaggaaa gaactatatt tttcaaagat 360
 44 gacgggaact acaagacacg tgctgaagtc aagtttgaag gtgataccct tgttaataga 420
 46 atcgagttaa aaggtattga ttttaagaa gatggaaaca ttcttggaaca caaattggaa 480
 48 tacaactata actcacacaa tgtatacatc atggcgagaca aacaaaagaa tggaatcaaa 540
 50 gttaacttca aaattagaca caacattgaa gatggaagcg ttcaactagc agaccattat 600
 52 caacaaaata ctccaattgg cgatggccct gtccttttac cagacaacca ttacctgtcc 660
 54 acacaatctg ccctttcgaa agatcccaac gaaaagagag accacatggt ccttcttgag 720
 56 tttgtaacag ctgctgggat tacacatggc atggatgaac tatacaaata gcattcgtag 780
 58 aattctattg cacggtatat ggcgaagaaa catcatatga tgggtgaaac agacgaggaa 840
 60 tactatagtg ttgaaaagtt gattggtcag gtgagttgag ccttttattg gttgatggga 900
 62 ttttatgcta ctggagtcct gtaagttcag tttgttgctg tgaataaata aagttcgaat 960
 64 tgataggcga gtggtaacct atgtgttggt attactaaaa gtcataagtg tgaggtatcc 1020
 66 caattattag aaatgtgact aagactgagc ttttctgcct attgggatat tacagataag 1080
 68 ttacttattt gtagtatcgt aatagtgttc actgggaacc atctaattca ctctcaaaaa 1140
 70 tactttatcg tgtcttattt tattcatcct cataactcgt ttgctaggag aacagctgtg 1200
 72 cccatagggt agttgacaag ttacttactt ccccatgata cgcttattt taataacctt 1260
 74 ataaaggctc ggttacgtaa cgtccctata gtgcatagca tacctacgaa cattgactcc 1320
 76 caactgatta agtgcggtat gcattttttt ggatgttatc gcacagtaag acaataccat 1380
 78 cctcatctca atgtcaagag gtctttctcc aggaacaga tccataccac cattacttac 1440
 80 atccatcaga gctgttccca gaatgtcttg ttataaacgg atggattatt tatttatttg 1500
 82 accacataaa tattgcatca aagaggtggg ggatccacta gttctagagc ggccgccacc 1560
 84 gcggtggagc tccagctttt gttcccttta gtgaggttta attgcgcgct tggcgtaatc 1620

ENTERED

RAW SEQUENCE LISTING

DATE: 10/11/2001

PATENT APPLICATION: US/09/857,069

TIME: 10:26:05

Input Set : A:\SEQUENCE LISTING.txt

Output Set: N:\CRF3\10112001\I857069.raw

86	atggtcatag	ctgtttcctg	tgtgaaattg	ttatccgctc	acaattccac	acaacatacg	1680
88	agccggaagc	ataaagtgtg	aagcctgggg	tgcctaatag	gtgagctaac	tcacattaat	1740
90	tgcgttgccg	tactgccccg	ctttccagtc	gggaaacctg	tcgtgccagc	tgcatthaatg	1800
92	aatecgccaa	cgcgcgggga	gaggcggttt	gcgtattggg	cgctcttccg	cttcctcgct	1860
94	cactgactcg	ctgcgctcgg	tcgttcgggt	gcggcgagcg	gtatcagctc	actcaaaggc	1920
96	ggtaatacgg	ttatccacag	aatcaggggg	taacgcagga	aagaacatgt	gagcaaaagg	1980
98	ccagcaaaag	gccaggaacc	gtaaaaaggc	cgcgttgctg	gcgtttttcc	ataggctccg	2040
100	ccccctgac	gagcatcaca	aaaatcgacg	ctcaagtcag	aggtggcgaa	accgacagga	2100
102	ctataaagat	accaggcggt	tccccctgga	agctccctcg	tgcgctctcc	tggtccgacc	2160
104	ctgccgctta	ccgataacct	gtccgccttt	ctcccttcgg	gaagcgtggc	gctttctcat	2220
106	agctcacgct	gtaggtatct	cagttcggtg	taggtcgttc	gctccaagct	gggctgtgtg	2280
108	cacgaccccc	cgttcagccc	gacgcgtcgg	ccttatccgg	taactatcgt	cttgagtcca	2340
110	acccggtaag	acacgactta	tcgccactgg	cagcagccac	tggtaacagg	attagcagag	2400
112	cgaggtatgt	aggcggtgct	acagagttct	tgaagtgggt	gcctaactac	ggctacacta	2460
114	gaaggacagt	atttggtatc	tgcgctctgc	tgaagccagt	taccttcgga	aaaagagttg	2520
116	gtagctcttg	atccggcaaa	caaaccaccg	ctggtagcgg	tggttttttt	gtttgcaagc	2580
118	agcagattac	gcgcagaaaa	aaaggatctc	aagaagatcc	tttgatcttt	tctacggggt	2640
120	ctgacgctca	gtggaacgaa	aactcacggt	aagggatttt	ggtcatgaga	ttatcaaaaa	2700
122	ggatcttcac	ctagatcctt	ttaaattaaa	aatgaagtgt	taaatcaatc	taaagtatat	2760
124	atgagtaaac	ttggtctgac	agttaccaat	gcttaactag	tgaggcacct	atctcagcga	2820
126	tctgtctatt	tcgttcatcc	atagttgcct	gactccccgt	cgtgtagata	ctacgatacg	2880
128	ggagggctta	ccatctggcc	ccagtgcctg	aatgataccg	cgagaccac	gctcaccggc	2940
130	tccagattta	tcagcaataa	accagccagc	cggaagggcc	gagcgcagaa	gtggctctgc	3000
132	aactttatcc	gcctccatcc	agtctattaa	ttgttgccgg	gaagctagag	taagtagttc	3060
134	gccagttaat	agtttgcgca	acgttggtgc	cattgctaca	ggcatcgtgg	tgctacgctc	3120
136	gtcgtttggt	atggcttcat	tcagctccgg	ttcccaacga	tcaaggcgag	ttacatgata	3180
138	ccccatgttg	tgcaaaaaag	cggttagctc	cttcggctct	ccgatcgttg	tcagaagtaa	3240
140	gttgcccgca	gtgttatcac	tcattggttat	ggcagcactg	cataattctc	ttactgtcat	3300
142	gccatccgta	agatgctttt	ctgtgactgg	tgagtactca	accaagtcat	tctgagaata	3360
144	gtgtatgcgg	cgaccgagtt	gctcttgccc	ggcgtcaata	cggggataata	ccgcgccaca	3420
146	tagcagaact	ttaaaagtgc	tcattcattg	aaaacgttct	tcggggcgaa	aactctcaag	3480
148	gatcttaccg	ctgttgagat	ccagttcgat	gtaaccact	cgtgcaccca	actgatcttc	3540
150	agcatctttt	actttcacca	gcgtttctgg	gtgagcaaaa	acaggaaggc	aaaatgccgc	3600
152	aaaaaaggga	ataaggcgca	cacggaaatg	ttgaatactc	atactcttcc	tttttcaata	3660
154	ttattgaagc	atttatcagg	gttattgtct	catgagcgga	tacatatttg	aatgtattta	3720
156	gaaaaataaa	caaatagggg	ttccgcgcac	atttccccga	aaagtgccac	ctgacgcgcc	3780
158	ctgtagcggc	gcattaagcg	cggcggtgtg	ggtggttacg	cgcagcgtga	ccgtacact	3840
160	tgccagcgcc	ctagcgcccc	ctcctttcgc	ttcttctcct	tcctttctcg	ccacgttcgc	3900
162	cggctttccc	cgtcaagctc	taaatcgggg	gctcccttta	gggttccgat	ttagtgtctt	3960
164	acggcacctc	gaccccaaaa	aacttgatta	gggtgatggt	tcacgtagtg	ggccatcgcc	4020
166	ctgatagacg	gtttttcggc	ctttgacgtt	ggagtccacg	ttcttttaata	gtggactctt	4080
168	gttccaaact	ggaacaacac	tcaaccctat	ctcgggtctat	tcttttgatt	tataagggat	4140
170	tttgccgatt	tcggcctatt	ggttaaaaaa	tgagctgatt	taacaaaaat	ttaacgcgaa	4200
172	ttttaacaaa	atattaacgc	ttacaatttc	cattcgccat	tcaggctgcg	caactgttgg	4260
174	gaagggcgat	cgggtgcgggc	ctcttcgcta	ttacgccagc	tggcgaaagg	gggatgtgct	4320
176	gcaaggcgat	taagttgggt	aacgccaggg	ttttccaggt	cacgacgttg	taaaacgacg	4380
178	gccagtgcgc	gcgcgtaata	cgactcacta	tagggcgaaat	tggtgaccgg	gccccccctc	4440
180	gaggtcgacg	gtatcgataa	gcttgattca	tcgagaacgg	tttacctgtt	caatgaatcg	4500
182	agtcaaattt	gtctgcttaa	tttttattgg	tcactctttc	acagccaatg	aggcactcaa	4560

RAW SEQUENCE LISTING

DATE: 10/11/2001

PATENT APPLICATION: US/09/857,069

TIME: 10:26:05

Input Set : A:\SEQUENCE LISTING.txt

Output Set: N:\CRF3\10112001\I857069.raw

```

184 taaacagcga atagaaatga aatatattaca gttaaaatca agagttacac tattggccga 4620
186 tctgtttact aaatgactat ttaatagtca cagctcagat agttagcact gttttgtcta 4680
188 ttgcaagat ggctggcgag catatcaagg tgggttggtg tgggtgttcg tcattgtggt 4740
190 gcttggtaaa ttttcgagtg ttgttaaggT tcctaattgc agcatttagc ggaataaata 4800
192 ttattccgct atatgaaggT aaatactgag tccatgttaa ttgcacatta gatccgtaca 4860
194 tatatttggc tgtgattttc cacgtcatca ggtcagtaag ttacgtgttc acactgggtt 4920
196 ctgatataat gcacaaccat tatagtcaca tagtggtcac cgattatgtg ttaggtgtag 4980
198 catttcaggc gatgttatag tttgtctgtg gaattgttac gagaacttag gggattctag 5040
200 agcgtgaatc catctagtc ccatctcaga gacatgcgtc catggaacag ttatttatta 5100
202 tgtgatgttt tgtctgaagt ggtttttttc aagcgtaaat tgatgtgaaa cacagctgta 5160
204 atttctatag gttatctatt ttgacggacg cggacgtgct gaatcgattc ggatgactct 5220
206 tgtggcagct ggtgtagact acgaagatga gagaattagt ttccaagatt ggccaaaaat 5280
208 caaaccaact attccaggcg gacgattgcc tgcagtgaag gtcactgatg atcatgggca 5340
210 cgtgaaatgg atgtta 5356
213 <210> SEQ ID NO: 2
214 <211> LENGTH: 6494
215 <212> TYPE: DNA
216 <213> ORGANISM: Artificial sequence ✓
218 <220> FEATURE:
219 <223> OTHER INFORMATION: GFP-Sml-7 fusion, vector sequence ✓
221 <400> SEQUENCE: 2
222 gatctgaatc cgaccaaccg ttctatgaaa atcgttgtat ctccgaaacc actggacgga 60
224 tttttatgat gtttgtttta gattatttgc gagagcgtgg gcgttaatat aaaacaagaa 120
226 tgatctgaat ccgaccaacc gttctatgaa aatcgttgta tctccgaaac cactggacgg 180
228 atttttatga tgtttgtttt agattatttg cgagagcgtg ggcgttaata taaaacaaga 240
230 atgatctgaa tccgaccaac cgttctatga aaatcgttgt atctccgaaa ccactggacg 300
232 gatttttatg atgtttgttt tagattattt gcgagagcgt gggcgttaat ataaaaaag 360
234 aatcatctca atcccatcag ccgttctatg aaaatcgttg tatctccgaa accactggac 420
236 ggatttttat gatgtttgtt ttagattatt tgcgagagcg tgggcgttaa tataaaacaa 480
238 gaatgatctg aacacgggtg tttttctgtt cagcttatgc aactttaaaa ttcgatgggt 540
240 cgtctcaacg aaatttgtat tgctttgtcg aggtcgacgg tatcgataag cttgattcat 600
242 cgagaacggT ttacatgttc aatgaatcga gtcaaatttg tctgcttaat ttttattggt 660
244 cactctttca cagccaatga ggcactcaat aaacagcgaa tagaaatgaa atatttacag 720
246 ttaaaatcaa gagttacact attggccgat ctgtttacta aatgactatt taatagtcac 780
248 agctcagata gttagcactg ttttgtctat ttgcaagatg gctggcgagc atatcaaggt 840
250 gggttggtgt ggttggttcg cattgtgttg cttggtaaat tttcgagtgt tgtaaagggt 900
252 cctaattgca gcatttagcg gaataaatat tattccgcta tatgaaggta aatactgagt 960
254 ccatgttaat tgcacattag atccgtacat atatttggct gtgattttcc acgtcatcag 1020
256 gtcagtaagt tacgtgttca cactgggttc tgatataatg cacaaccatt atagtcacat 1080
258 agtggtcacc gattatgtgt taggtgtagc atttcaggcg atgttatagt ttgtctgtgg 1140
260 aattgttacg agaacttagg ggattctaga gcgtgaatcc atctagtcca tatctcagag 1200
262 acatgcgtcc atggaacagt tatttattat gtgatgtttt gttctgaagtg gtttttttca 1260
264 agcgtaaatt gatgtgaaac acagctgtaa tttctatagg ttatctattt tgacggacgc 1320
266 ggacgtgctg aatcgattcg gatgactctt gtggcagctg gtgtagacta cgaagatgag 1380
268 agaattagtt tccaagattg gccaaaaatc aaaccaacta ttccaggcgg acgattgcct 1440
270 gcagtgaag tcactgatga tcatgggcac gtgaaatgga tgtaagctt gcatgcctgc 1500
272 aggtcgactc tagaggatcc ccgggtaccg gtagaaaaaa tgagtaaagg agaagaactt 1560
274 ttcactggag ttgtcccaat tcttggtgaa ttagatggtg atgttaatgg gcacaaattt 1620
276 tctgtcagtg gagagggtga aggtgatgca acatacggaa aacttaccct taaatttatt 1680

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/857,069

DATE: 10/11/2001

TIME: 10:26:05

Input Set : A:\SEQUENCE LISTING.txt

Output Set: N:\CRF3\10112001\I857069.raw

278	tgcactactg	gaaaactacc	tgttccatg	ccaacacttg	tcactacttt	ctcttatggt	1740
280	gttcaatgct	tttcaagata	cccagatcat	atgaaacggc	atgacttttt	caagagtgcc	1800
282	atgcccgaag	gttatgtaca	ggaaagaact	atattttttca	aagatgacgg	gaactacaag	1860
284	acacgtgctg	aagtcaagtt	tgaaggatg	acccttggtta	atagaatcga	gttaaaagg	1920
286	attgatttta	aagaagatgg	aaacattctt	ggacacaaat	tggaatacaa	ctataactca	1980
288	cacaatgtat	acatcatggc	agacaaacaa	agaatggaa	tcaaagttaa	cttcaaaatt	2040
290	agacacaaca	ttgaagatgg	aagcgttcaa	ctagcagacc	attatcaaca	aaatactcca	2100
292	attggcgatg	gccctgtcct	tttaccagac	aaccattacc	tgtccacaca	atctgccctt	2160
294	tcgaaagatc	ccaacgaaaa	gagagaccac	atggctcctt	ttgagtttgt	aacagctgct	2220
296	gggattacac	atggcatgga	tgaactatac	aaatagcatt	cgtagaattc	tattgcacgg	2280
298	tatatggcga	agaaacatca	tatgatgggt	gaaacagacg	aggaatacta	tagtggtgaa	2340
300	aagttgattg	gtcaggtgag	ttgagccttt	tattggttga	tgggatttta	tgctactgga	2400
302	gtcctgtaag	ttcagtttgt	tgcgttgaat	aaataaagtt	cgaattgata	ggcgagtgg	2460
304	aacctatgtg	ttgtgattac	taaaagtcac	aagtgtgagg	tatcccaatt	attagaaatg	2520
306	tgactaagac	tgagcttttc	tgcctattgg	gatattacag	ataagttact	tatttgtagt	2580
308	atcgtaatag	tgttcactgg	gaaccatcta	attcactctc	aaaaataact	tatcgtgtct	2640
310	tattttattc	atcctcataa	ctcgtttgct	aggagaacag	ctgtgcccac	aggttagttg	2700
312	acaagttact	tacttcccca	tgatacgcct	tattttaata	acctaataaa	ggctcggtta	2760
314	cgtaacgtcc	ctatatgtga	tagcatacct	acgaacattg	actcccaact	gattaagtg	2820
316	ggattgcatt	tttttggatg	ttatcgca	gtaagacaat	accatcctca	tctcaatgtc	2880
318	aagaggtctt	tctccaggca	acagatccat	accaccatta	cttacatcca	tcagagctgt	2940
320	tcccagaatg	tcttgttata	aacggatgga	ttattttatt	atttgaccac	ataaatattg	3000
322	catcaaagag	gtgggggac	cactagtctt	agagcggcgg	ccaccgcggt	ggaggatctg	3060
324	aatccgacca	accgttctat	gaaaatcggt	gtatctccga	aaccactgga	cggattttta	3120
326	tgatgtttgt	tttagattat	ttgcgagagc	gtgggcgtta	atataaaaca	agaatgatct	3180
328	gaatccgacc	aaccgttcta	tgaaaatcgt	tgtatctccg	aaaccactgg	acggattttt	3240
330	atgatgtttg	ttttagatta	tttgcgagag	cgtgggcgtt	aatataaaac	agaatgatc	3300
332	tgaatccgac	caaccgttct	atgaaaatcg	ttgtatctcc	gaaaccactg	gacggatttt	3360
334	tatgatgttt	gttttagatt	atttgcgaga	gcgtgggcgt	taatataaaa	caagaatcat	3420
336	ctcaatccca	tcagccgttc	tatgaaaatc	gttgtatctc	cgaaccact	ggacggattt	3480
338	ttatgatgtt	tgtttttagat	tatttgcgag	agcgtgggcg	ttaatataaa	acaagaatga	3540
340	tctgaacacg	ggtgtttttc	tgttcagctt	atgcaacttt	aaaattcgat	gggtcgtctc	3600
342	aacgaaat	gtattgcttt	gctccagctt	ttgttccctt	tagtgagggt	taattgcgcg	3660
344	cttggcgtaa	tcattggtcat	agctgtttcc	tgtgtgaaat	tggtatccgc	tcacaattcc	3720
346	acacaacata	cgagccggaa	gcataaagt	taaagcctgg	ggtgccta	gagtgaacta	3780
348	actcacatta	attgctgttc	gctcactgcc	cgctttccag	tcgggaaacc	tgtcgtgcca	3840
350	gctgcattaa	tgaatcggcc	aacgcgcggg	gagaggcgg	ttgcgtattg	ggcgtctctc	3900
352	cgcttcctcg	ctcactgact	cgctgcgtct	ggctcgttcg	ctgcggcgag	cggatcagc	3960
354	tcaactcaaag	gcggtaatac	ggttatccac	agaatcaggg	gataacgcag	gaaagaacat	4020
356	gtgagcaaaa	ggccagcaaa	aggccaggaa	ccgtaaaaag	gccgcgttgc	tggcgttttt	4080
358	ccataggtct	cgccccctg	acgagcatca	caaaaatcga	cgctcaagtc	agaggtggcg	4140
360	aaaccgacag	gactataaag	ataccaggcg	tttccccctg	gaagctccct	cgtgcgtctc	4200
362	cctgttccga	ccctgcgcgt	taccggatac	ctgtccgcct	ttctcccttc	gggaagcgtg	4260
364	gcgttttctc	atagctcacg	ctgtaggtat	ctcagttcgg	tgtaggtcgt	tcgctccaag	4320
366	ctgggctgtg	tgcacgaccc	cccgttcagc	ccgaccgctg	cgccttatcc	ggtaactatc	4380
368	gtcttgagtc	caaccgggta	agacacgact	tatcgccact	ggcagcagcc	actggtaaca	4440
370	ggattagcag	agcgaggat	gtaggcggg	ctacagagtt	cttgaagtgg	tggcctaact	4500
372	acggctacac	tagaaggaca	gtatttggta	tctgcgtctc	gctgaagcca	gttaccttcg	4560
374	gaaaaagagt	tggtagctct	tgatccggca	aacaaaccac	cgttggttagc	ggtggttttt	4620

RAW SEQUENCE LISTING

DATE: 10/11/2001

PATENT APPLICATION: US/09/857,069

TIME: 10:26:05

Input Set : A:\SEQUENCE LISTING.txt

Output Set: N:\CRF3\10112001\I857069.raw

```

376 ttgtttgcaa gcagcagatt acgcgcagaa aaaaaggatc tcaagaagat cctttgatct 4680
378 tttctacggg gtctgacgct cagtggaaacg aaaactcacg ttaagggatt ttggtcatga 4740
380 gattatcaaa aaggatcttc acctagatcc ttttaaatta aaaatgaagt tttaaatcaa 4800
382 tctaaagtat atagtagtaa acttggtctg acagttacca atgcttaatc agtgaggcac 4860
384 ctatctcagc gatctgtcta tttcgttcat ccatagttgc ctgactcccc gtcgtgtaga 4920
386 tactacgata cgggagggtt taccatctgg cccagtgct gcaatgatac cgcgagaccc 4980
388 acgctcaccg gctccagatt tatcagcaat aaaccagcca gccggaaggg ccgagcgag 5040
390 aagtgtcctt gcaactttat ccgcctccat ccagtcattt aattgttgcc gggaagctag 5100
392 agtaagtagt tcgccagtta atagtttgcg caacgttggt gccattgcta caggcatcgt 5160
394 ggtgtcacgc tcgtcgtttg gtatggcttc attcagctcc ggttcccaac gatcaaggcg 5220
396 agttacatga tcccccatgt tgtgcaaaaa agcgggttagc tccttcggtc ctccgatcgt 5280
398 tgtcagaagt aagttggcgg cagtgttatc actcatgggt atggcagcac tgcataattc 5340
400 tcttactgtc atgccatccg taagatgctt ttctgtgact ggtgagtact caaccaagtc 5400
402 attctgagaa tagtgtatgc ggcgaccgag ttgctcttgc ccggcgtaaa tacgggataa 5460
404 taccgcgcca catagcagaa ctttaaaagt gctcatcatt ggaaaacgtt cttcggggcg 5520
406 aaaactctca aggatcttac cgctgttgag atccagttcg atgtaacca ctcgtgcacc 5580
408 caactgatct tcagcatctt ttactttcac cagcgtttct gggtagagcaa aaacaggaag 5640
410 gcaaaatgcc gcaaaaaagg gaataagggc gacacggaaa tgttgaatac tcatactctt 5700
412 cctttttcaa tattattgaa gcatttatca gggttattgt ctcagagcg gatacatatt 5760
414 tgaatgtatt tagaaaaata acaaatagg ggttcgcgc acatttcccc gaaaagtgcc 5820
416 acctgacgcg cctgttagcg gcgcattaag cgcggcggtt gtggtggtta cgcgcagcgt 5880
418 gaccgctaca cttgccagcg ccctagcgcc cgtcctttc gctttcttcc cttcctttct 5940
420 cgccacgttc gccggtttc ccgctcaagc tctaaatcgg gggctccctt tagggttccg 6000
422 atttagtget ttacggcacc tcgaccccaa aaaacttgat tagggtgatg gttcacgtag 6060
424 tgggccatcg ccctgataga cggtttttcg ccctttgacg ttggagtcca cgttctttta 6120
426 tagtggactc ttgttccaaa ctggaacaac actcaacctt atctcgggtc attcttttga 6180
428 tttataaggg attttgccga tttcggccta ttggttaaaa aatgagctga tttacaaaa 6240
430 atttaacgcg aattttaaca aaatattaac gcttacaatt tccattcgcc attcaggctg 6300
432 cgcaactgtt gggaaggggc atcgggtgcg gcctcttcgc tattacgcca gctggcgaaa 6360
434 ggggggatgt ctgcaaggcg attaagttgg gtaacgccag ggttttccca gtcacgacgt 6420
436 tgtaaaacga cggccagtga gcgcgcgtaa tacgactcac tataggcgga attgggtacc 6480
438 gggccccccc tcga 6494
441 <210> SEQ ID NO: 3
442 <211> LENGTH: 24
443 <212> TYPE: DNA
444 <213> ORGANISM: Artificial sequence ✓
446 <220> FEATURE:
447 <223> OTHER INFORMATION: Synthetic oligonucleotide ✓
449 <400> SEQUENCE: 3
450 catcgagaac ggtttacatg ttca 24
453 <210> SEQ ID NO: 4
454 <211> LENGTH: 21
455 <212> TYPE: DNA ✓
456 <213> ORGANISM: Artificial sequence
458 <220> FEATURE:
459 <223> OTHER INFORMATION: Synthetic oligonucleotide ✓
461 <400> SEQUENCE: 4
462 gcagcctcct cacatgctcc a 21
465 <210> SEQ ID NO: 5

```

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/857,069

DATE: 10/11/2001

TIME: 10:26:06

Input Set : A:\SEQUENCE LISTING.txt

Output Set: N:\CRF3\10112001\I857069.raw